

## REMARKS

The Office Action of September 5, 2006, has been carefully reviewed, and in view of the above amendments and the following remarks, reconsideration and allowance of the pending claims are respectfully requested.

In the above Office Action, claims 1-6, 14-17 and 20 have been rejected under 35 U.S.C. § 102 (b), as being anticipated by *Shimadzu* (JP 200146864). Claims 12 (?), 13, 15-17 and 20 have been rejected under 35 U.S.C. § 102(b) as anticipated by or in the alternative under U.S.C. § 103(a) as being obvious over the references cited in the International Search Report as applied in International Application No. PCT/GB03/04818. Claims 7-12 and 21-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Shimadzu* '864 in view of *Romero* (U.S. Patent No. 5,487,423). Claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Shimadzu* '864. Claims 18 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Shimadzu* '864 and *Shimadzu* '864 in view of *Romero* '423. Claims 19 and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Shimadzu* '864 and *Shimadzu* '864 in view of *Romero* '423 and further in view of *Eaves* (EP 1217294).

At the outset, Applicants note that the foreign patent documents submitted with the Information Disclosure Statement filed May 6, 2005 have not been considered. Applicants respectfully submit that said documents were believed to have been transmitted by the International Search Bureau to the USPTO. Moreover, in view of the Examiner's rejection above, i.e., "over the references cited in the International Search Report as applied in International Application No. PCT/GB03/04818", Applicants respectfully contend that said documents should have been made of record on Form PTO-892 if not considered in the submitted IDS.

Nevertheless, a copy of each document is attached herewith together with a revised Form PTO-1449. Formal acknowledgement of consideration is kindly requested.

As set forth above, claim 1 has been amended to recite that: (1) the radiant tube heater comprises an elongate tube and a burner where a fuel is combusted with air and the hot combustion products pass through said spiral tube assembly; (2) the spiral tube assembly comprises a straight portion and a spiral portion downstream of the straight portion and arranged around the straight portion; and (3) the air flow generating means is arranged to generate an air flow over both the radiant tube heater and the spiral tube assembly, thereby providing a hot air output stream from the heater assembly.

The primary reference upon which the Examiner relies, *Shimadzu '864*, discloses a reaction vessel 1, a gas inlet 12 which introduces the carbon dioxide and methane reactant gas 8, an external gas burner 6 which sends combustion gas into the radiant tube 3 in the reaction vessel 1, and an exhaust pipe 13 which discharges the gas and combustion gas 11 after the reaction in reactor 4. Hence, the gaseous feed is a mixture of carbon dioxide and methane gas (not air as recited in claim 1) which passes through the catalyst bed 5. Further, *Shimadzu '864* does not disclose a spiral tube assembly separate and distinct from the radiant tube heater, as recited in claim 1, or a spiral portion arranged around a straight portion, as also recited in claim 1. Still further, *Shimadzu '864* does not disclose air flow generating means arranged to generate an air flow over both the radiant tube heater and the spiral tube assembly, thereby providing a hot air output stream from the heater assembly.

Hence, in essence, *Shimadzu '864* merely discloses a radiant tube heater, which is spirally arranged around a reactor to indirectly heat a reactant gas.

Accordingly, Applicants submit that claims 1-6, 14-17 and 20 are not anticipated by *Shimadzu '864*.

The secondary reference upon which the Examiner relies, *Romero*, is directed to a heat exchanger for reheating a secondary fluid such as a pool of fresh or sea water. *Romero* discloses a spiral heat exchanger 10 wound around a straight portion 14, wherein the spiral portion is located upstream of the straight portion. In contrast thereto, claims 1 and 21 recite a radiant tube heater having a straight portion and a spiral portion, the spiral portion being located downstream of the straight portion and arranged around the straight portion.

*Romero* does not disclose a radiant tube heater for heating the primary fluid but merely suggests that the primary fluid is introduced through an inlet 12. Further, *Romero* does not disclose a spiral tube assembly separate and distinct from the radiant tube heater, as recited in claim 1. Still further, *Romero* does not disclose air flow generating means arranged to generate an air flow over both the radiant tube heater and the spiral tube assembly, thereby providing a hot air output stream from the heater assembly.

Accordingly, even if the teachings of *Romero* were combined with the primary reference, Applicants respectfully contend that the claimed invention, and in particular claims 7-12 and 21-24, would not be rendered obvious.

Moreover, Applicants submit that there is no motivation for one skilled in the art to combine the references cited, and that neither reference upon which the Examiner relies discloses a heater assembly that provides a hot air output, as recited in claim 1.

### CONCLUSION

In view of the above amendments and remarks, Applicant/s respectfully submit/s that the claims of the present application are now in condition for allowance, and an early indication of the same is earnestly solicited.


Should any questions arise in connection with this application or should the Examiner believe that a telephone conference would be helpful in resolving any remaining issues pertaining to this application; the Examiner is kindly invited to call the undersigned counsel for Applicant regarding the same.

Respectfully submitted,

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